

Suggested Guidelines for Progressive Engineering Experience

The following is a partial list of work experience that may be useful in guiding, mentoring, and verifying acceptable experience of engineer interns and/or intern applicants.

There are no correct answers to the following questions. The profile of each applicant will provide the licensing board a basis for more specific questions.

Practical Application of Theory

1. **Analysis:** Of operating conditions; performance assessment; feasibility studies; constructability; value engineering; safety; environmental issues; economic issues; risk assessment; reliability; other (list) _____
2. **Design:** Construction plan or specification preparation; product specifications; component selection; maintenance and social implications of final product; other (list) _____
3. **Testing:** Developing or specifying testing procedures; verifying functional specifications; implementing quality control and assurance; maintenance and replacement evaluation; other (list) _____
4. **Implementation:** Of engineering principles in design, construction, or research; performance of engineering cost studies; process flow and time studies; implementation of quality control and assurance; safety issues; and environmental issues; other (list) _____
5. **Systems Applications:** Evaluation of components of a larger system; evaluation of the reliability of system parts; design and evaluation of equipment control systems while considering ergonomics, utility, manufacturing tolerances, and operating and maintenance concerns; the engineering required to establish programs and procedures for the maintenance and management of buildings, bridges, and other types of structures where failure or improper operation would endanger the public health and safety; other (list) _____
6. **Time in the Engineering Process:** Difficulties of workflow; scheduling; equipment life; corrosion rates and replacement scheduling; other (list) _____
7. **Experience and Understanding:** Codes, standards, regulations and laws that govern applicable activities; other (list) _____

Management

Management in engineering work includes supervising staff, managing engineering projects and managing and administering technology as it is applied in the field or in construction. It may involve:

1. **Planning:** Developing concepts, evaluating alternative methods. _____
2. **Scheduling:** Preparing task breakdowns and schedules. _____
3. **Budgeting and Contracting:** Cost estimating and control, contract development. _____
4. **Supervising:** Organizing human resources, motivating teams, directing, and coordinating project resources. _____
5. **Project Control:** Complete or partial project control. _____
6. **Risk Assessment:** Assessment of risk associated with the progression of the project. _____

Communication Skills

1. **Accumulates project knowledge** through interpersonal communication with supervisors, clients, subordinates, or team interaction. _____
2. **Transmits project knowledge** in verbal or written methods to clients, supervisors, subordinates, general public or team members. Examples would be via meetings, written reports, public hearings and reporting of findings and suggestions, other written correspondence and/or verbal briefings. _____

Social Implications

1. **Promotes and safeguards** the health, safety and welfare of the public as demonstrated in daily work activities. _____
2. **Demonstrates an awareness** of the consequences work performed may incur and a desire to mitigate or eliminate any potential negative impact. _____
3. **Follows a code of ethics** that promotes a high degree of integrity in the practice of professional engineering. _____